

A List of Recommended Nomenclatural Changes
for MACFARLAND'S
"Studies of Opisthobranchiate Mollusks
of the Pacific Coast of North America"

BY

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MANY WORKERS IN THE FIELD of opisthobranchiate mollusks have felt the need for a review of the nomenclature of the species treated in MACFARLAND'S posthumously published monograph. Because of restrictions relating to the MacFarland estate, the editors were prevented from making changes at the time of publication by the California Academy of Sciences, and the monograph was published using MACFARLAND'S original names.

Some of this needed work has been done already in various publications (see: STEINBERG, 1961, 1963; ODHNER, 1963; LANCE, 1966; FRANZ, 1967; MARCUS & MAR-

CUS, 1967; BURN, 1968; SPHON & LANCE, 1968; and ROLLER, 1969). The present list, prepared at the suggestion of the Department of Invertebrate Zoology of the California Academy of Sciences, brings together all of the recommended nomenclatural changes, old and new.

The animals treated in the following list are in the order of their appearance in the monograph. The names used by MACFARLAND appear in the left column (those proposed as new in the monograph without author), while the recommended name changes are presented in the right column.

MACFARLAND Names	New Names
<i>Aglaja diomedea</i> (plate 2, figure 4)	= <i>Aglaja ocelligera</i> (BERGH, 1894)
<i>Aclesia rickettsi</i>	= <i>Stylocheilus longicauda</i> (QUOY & GAIMARD, 1824) (see BEEMAN, 1968)
<i>Hermaea ornata</i> (BERGH)	= <i>Placida dentritica</i> (ALDER & HANCOCK, 1843) (see LONG, 1969)
<i>Phyllobranchopsis enteromorpha</i> [sic] COCKERELL & ELIOT, 1905	= <i>Hermaeina smithi</i> MARCUS, 1961
<i>Elysia bedeckta</i>	= <i>Elysia hedgpethi</i> MARCUS, 1961 (s. SPHON & LANCE, 1968)
<i>Pleurobranchus californicus</i> DALL	= <i>Berthella californica</i> (DALL, 1900) (see LANCE, 1966)
<i>Acanthodoris columbina</i> MACFARLAND, 1926	= <i>Acanthodoris nanaimoensis</i> O'DONOGHUE, 1921 (see STEINBERG, 1963)
<i>Corambella bolini</i>	= <i>Doridella steinbergae</i> (LANCE, 1962) (see FRANZ, 1967)
<i>Glossodoris macfarlandi</i> (COCKERELL)	= <i>Chromodoris macfarlandi</i> COCKERELL, 1902
<i>Chromodoris californiensis</i> BERGH	= <i>Hypselodoris californiensis</i> (BERGH, 1879)
<i>Chromodoris porterae</i> COCKERELL	= <i>Hypselodoris porterae</i> (COCKERELL, 1902)
<i>Austrodoris odhneri</i>	= <i>Archidoris odhneri</i> (MACFARLAND, 1966) (s. BURN, 1968)
<i>Petelodoris spongicola</i>	= <i>Atagama quadrimaculata</i> COLLIER, 1963
<i>Dendrodoris fulva</i> (MACFARLAND, 1905)	= <i>Doriopsilla albopunctata</i> (COOPER, 1863) (see STEINBERG, 1961)

<i>Dendrodoris albopunctata</i> (COOPER)	= <i>Doriopsilla albopunctata</i> (COOPER, 1863)
<i>Duvaucelia tetraquetra</i> (PALLAS)	= <i>Tochuina tetraquetra</i> (PALLAS, 1788) (s. ODHNER, 1963)
<i>Duvaucelia festiva</i> (STEARNS)	= <i>Tritonia festiva</i> (STEARNS, 1873) (s. MARCUS & MARCUS, 1967)
<i>Duvaucelia exsulans</i> (BERGH)	= <i>Tritonia exsulans</i> BERGH, 1894 (see MARCUS & MARCUS, 1967)
<i>Duvaucelia gilberti</i>	= <i>Tritonia gilberti</i> (MACFARLAND, 1966) (see MARCUS & MARCUS, 1967)
<i>Dendronotus venustus</i>	= <i>Dendronotus frondosus</i> (ASCANIUS, 1744)
<i>Doto varians</i> (C. group of dark-colored specimens)	= <i>Doto kya</i> MARCUS, 1961
<i>Antiopella aureocincta</i>	= <i>Antiopella barbarentis</i> (COOPER, 1863) (see SPHON & LANCE, 1968)
<i>Coryphella fisheri</i>	= <i>Coryphella trilineata</i> O'DONOGHUE, 1921
<i>Eubranchus occidentalis</i>	= <i>Capellinia rustya</i> MARCUS, 1961
<i>Cuthona rosea</i>	= <i>Precuthona divae</i> MARCUS, 1961 (see SPHON & LANCE, 1968)
<i>Cratena rutila</i>	= <i>Trinchesia lagunae</i> (O'DONOGHUE, 1926) (see ROLLER, 1969)
<i>Cratena flavovulta</i>	= <i>Trinchesia flavovulta</i> (MACFARLAND, 1966) (see ROLLER, 1969)
<i>Cratena fulgens</i>	= <i>Trinchesia fulgens</i> (MACFARLAND, 1966) (see ROLLER, 1969)
<i>Cratena albocrusta</i>	= <i>Trinchesia albocrusta</i> (MACFARLAND, 1966) (see ROLLER, 1969)
<i>Cratena virens</i>	= <i>Trinchesia virens</i> (MACFARLAND, 1966) (see ROLLER, 1969)
<i>Cratena abronia</i>	= <i>Trinchesia abronia</i> (MACFARLAND, 1966) (see ROLLER, 1969)
<i>Cratena spadix</i>	= <i>Catriona alpha</i> (BABA & HAMATANI, 1963) (see ROLLER, 1969)
<i>Phidiana nigra</i>	= <i>Phidiana pugnax</i> LANCE, 1961 (s. SPHON & LANCE, 1968)
<i>Aeolidiella oliviae</i>	= <i>Spurilla oliviae</i> (MACFARLAND, 1966) (s. SPHON & LANCE, 1968)

In treating *Aglaja*, MACFARLAND described several lots of specimens. Most of these appear to be assigned to the correct species, *A. diomedea* (BERGH, 1894), according to the shell figures shown (plt. 6, fig. 8; plt. 7, figs. 11-14). However, a specimen received by him from M. W. Williams in 1950 (described on pp. 8-9) was incorrectly assigned to *A. diomedea*. The caudal lobes of that specimen were described as having "The left lobe, triangular, of about the same size as the right one but is prolonged far beyond it as a delicate filament (flagellum) . . . The filament is 2.5 to 3 mm in length, extending beyond the posterior foot margin." No description of the shell was given. MACFARLAND states that "The specimen matched the colored figure (pl. 2, fig. 4) of the original specimen taken from Monterey Bay in 1894." The plate description on page 396 describes the animal as having the left caudal lobe lengthened into a slender flagellum, and the colored figure on plate 2 shows this flagellum clearly.

BERGH (*op. cit.*, pp. 211, 213) described *Aglaja diomedea* as having the left lobe without flagellum; and *A. ocelligera* as having the left lobe extended into a 1 mm long flagellum. The text description of the Williams specimen and the plate description and figure of the 1894 Monterey specimen indicate a flagellum. Therefore these 2 specimens should have been identified as *Aglaja ocelligera* (BERGH, 1894).

The naming of a new subspecies, *Pleurobranchus californicus denticulatus* by MACFARLAND presents a difficult nomenclatural problem. LANCE (1966) transferred *Pleurobranchus californicus* DALL, 1900 to *Berthella californica* (DALL, 1900) on the basis of the modern separation of the genera of the family Pleurobranchidae according to the configuration of the gill rhachis. In *Berthella* BLAINVILLE, 1825, the gill rhachis is smooth; while in *Pleurobranchus* CUVIER, 1805, the gill rhachis bears a series of tubercles at the junction of the gill plumules with the

rhachis. If DALL's original description of the species "The gill short, its stem finely granular, not tuberculate . . ." is accurate, then BERGH's (1902) anatomical account of the same specimen, wherein he states ". . . the plume made up of alternating tubules at the base of the pinnules, owing to the dilation of the branchial veinules as they join the branchial vein . . .," is somewhat contradictory. If, in fact, DALL's species has a smooth gill rhachis, then it most properly belongs in *Berthella*, as suggested by LANCE (*op. cit.*). However, since the gill rhachis of *P. californicus denticulatus* is described as tuberculate, MACFARLAND's species must be placed in *Pleurobranchus*, and cannot remain a subspecies.

The proper status of *Pleurobranchus californicus denticulatus* depends upon a better understanding of the anatomy of *P. californicus* s. s. Further study of live material from the type localities of both taxa will be required before this problem can be satisfactorily solved.

MACFARLAND also named another pleurobranchid in his monograph, *Pleurobranchus strongi*. This species was described as having the ". . . rachis smooth, without tubercles . . .," and on this basis should be placed in *Berthella*. However, he also observed a pedal gland and a prostate gland in his material of *P. strongi*; and these characteristics should not be present in members of the genus *Berthella*, according to BURN's synoptic key to the Pleurobranchacea (1962). MACNAE (1962) does not consider these characteristics to be of value for generic separation. The proper generic placement of this species is dependent upon further study of live material from the type locality and a much needed revision of the family Pleurobranchidae.

Another nomenclatural problem exists due to the naming of *Doto varians*. MACFARLAND stated that of the many specimens collected by him over a period of years, "An effort has been made to isolate these into groups based largely upon coloration. Three distinct groups are recorded." He listed the three groups as: A. The specimens of lightest colorings; B. The yellow specimens; and C. Group of dark-colored specimens, and stated that "Intermediate forms between the light and dark varieties of coloration are rare, and a complete graduation has never been found."

ODHNER (1936), in his discussion of the nomenclature of the genus *Doto* OKEN, 1815, stated that "The classification of the about 20 species which prove valid, offers great difficulties, since only slight differences exist and these are above all to be found in the coloration, . . . A classification of *Doto* must base upon this character, . . . at least for the present." He rejected as useful characteristics for species separation the use of radular teeth and gills on the inside of the cerata.

MARCUS (1961) named 4 species of *Doto* from the Monterey Bay area, namely *D. amyra*, *D. ganda*, *D. kya*, and *D. wara*. Of these species, only *D. kya* has any dark pigment mentioned, while the 3 remaining species are all described as light-colored.

The group of *Doto* specimens which MACFARLAND described as "dark-colored" and figured on plate 42 (figures 2, 4, 8) are similar in coloration to *D. kya*, and should be considered as belonging to that species. However, the "lightest coloring" and "yellow" specimens of MACFARLAND are not well enough described to allow allocating them to any of the 3 light-colored species of MARCUS (1961). There is much work needed to be done on the members of this genus before this species (*D. varians*) can be properly named.

There is a typographical error on page 51 in the description of *Elysia bedeckta*. In the last paragraph on that page, the second sentence states that "The cusp has a length from its anterior basal projection to the tip, of 0.33 mm . . ." This figure should be 0.033 mm, according to the original descriptive notes of MacFarland.

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LITERATURE CITED

- BEEMAN, ROBERT DAVID
1968. Order Anaspidea. *The Veliger* 3 (Supplement, prt. 2): 87 - 102; pl. 11; 12 text figs. (1 May 1968)
- BERGH, LUDWIG SOPHUS RUDOLPH
1894. Reports on the dredging operations off the west coast of central America to the Galapagos, to the west coast of Mexico and in the Gulf of California, in charge of Alexander Agassiz, carried on by the U. S. Fish Commission steamer "Albatross", during 1891. XIII. Die Opisthobranchien. *Bull. Mus. Comp. Zool., Harvard Univ.* 25 (10): 125 - 233; pls. 1 - 12 (October 1894)
1902. Malakologische Untersuchungen in Semper's Reisen im Archipel der Philippinen. Vol. 7, Abt. 4, Abs. 4: 313 - 382; pls. 25 - 29. {not seen}
1904. Nudibranchiata, Tectibranchiata-Pectibranchiata. In: SEMPER, Reisen im Archipel der Philippinen. 9 (6), Lief. 1: 1 - 55; pls. 1 - 4 {not seen}
- BURN, ROBERT
1962. On the new pleurobranch subfamily Berthellinae (Mollusca: Gastropoda); a revision and new classification of the species of New South Wales and Victoria. *Mem. Nat. Mus. Melbourne*, no. 25: 129 - 148; pls. 1, 2; figs. 1 - 5 (1 May 1962)
1968. *Archidoris odhneri* (MACFARLAND, 1966) comb. nov., with some comments on the species of the genus on the Pacific Coast of North America. *The Veliger* 11 (2): 90 - 92 (1 October 1968)

DALL, WILLIAM HEALEY

1900. A new species of *Pleurobranchus* from California.
Nautilus 14 (11): 125 - 126

FRANZ, DAVID R.

1967. On the taxonomy and biology of the dorid nudibranch
Doridella obscura. The Nautilus 80 (3): 73 - 79; 1 fig.

LANCE, JAMES ROBERT

1966. New distributional records of some northeastern Pacific
Opisthobranchiata (Mollusca: Gastropoda) with descriptions
of two new species. The Veliger 9 (1): 69 - 81; 12 figs.
(1 July 1966)

LONG, STEVEN J.

1969. Records of *Trinchesia virens*, *Trinchesia fulgens*, and
Placida dentritica from San Luis Obispo County, California.
The Tabulata 2 (4): 9 - 12; 2 figs. (1 October 1969)

MACFARLAND, FRANK MACE

1966. Studies of opisthobranchiate mollusks of the Pacific
Coast of North America. Mem. Calif. Acad. Sci. 6: xvi +
546 pp.; 72 pls. (8 April 1966)

MACNAE, WILLIAM

1962. Notaspidean opisthobranchiate molluscs from South Africa.
Ann. Natal Mus. 15 (15): 167 - 181; 7 figs.

MARCUS, ERNST

1961. Opisthobranch mollusks from California. The Veliger 3 (Supplement, pt. 1): 1 - 85; pls. 1 - 10.
(1 February 1961)

MARCUS, EVELINE & ERNST MARCUS

1967. American opisthobranch mollusks. Studies in tropical
Oceanography no. 6. Inst. Marine Sci., Univ. Miami,
Florida; viii + 256 pp.; 1 plt.; 155 + 95 text figs. (December)

ODHNER, NILS HJALMAR

1936. Nudibranchia Dendronotacea. A revision of the System.
Mélanges Paul Pelseneer. Mém. Mus. Roy. d'Hist. Nat.
de Belgique, Ser. II, Fasc. 3: 1057-1128; 1 plt.; text figs. 1-47.
1963. On the taxonomy of the family Tritoniidae (Mollusca:
Opisthobranchia). The Veliger 6 (1): 48 - 52 (1 July '63)

ROLLER, RICHARD A.

1969. Nomenclatural changes for the new species assigned to
Cratena by MACFARLAND (1966). The Veliger 11 (4):
421 - 423; 2 figs. (1 April 1969)

ROLLER, RICHARD A. & STEVEN J. LONG

1969. An annotated list of opisthobranchs from San Luis Obispo
County, California. The Veliger 11 (4): 424 - 430; 1
map (1 April 1969)

SPHON, GALE G., JR., & JAMES ROBERT LANCE

1968. An annotated list of nudibranchs and their allies from
Santa Barbara County, California. Proc. Calif. Acad. Sci.
(4) 36 (3): 73 - 84; 1 fig. (25 September 1968)

STEINBERG, JOAN EMILY

1961. Notes on the opisthobranchs of the west coast of North
America. — I. Nomenclatural changes in the order Nudi-
branchia (Southern California). The Veliger 4 (2): 57 - 63.
(1 October 1961)
1963. Notes on the opisthobranchs of the west coast of North
America. III. Further nomenclatural changes in the order
Nudibranchia. The Veliger 6 (2): 63 - 67 (1 Oct. 1963)